

REMARKS

In accordance with the foregoing, claims 1-5, 7-10, and 19 have been amended.

Claims 1-20 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 112:

In the Office Action, at page 2, claims 1-5, 7-10, and 19 are rejected under 35 U.S.C. § 112, second paragraph, for the reasons set forth therein.

The claims have been amended to improve clarity and antecedent support. It is respectfully requested that the rejections to the claims be withdrawn.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 5, claims 1-5 and 7-17 are rejected under 35 U.S.C. § 103 in view of U.S. Patent No. 5,638,112 to Bestler et al. (“Bestler”) in view of U.S. Patent No. 5,298,998 to Furumiya et al. (“Furumiya”). This rejection is traversed and reconsideration is requested.

The description regarding Bestler and arguments supporting the patentability of the claims presented in the response filed on December 22, 2003 are incorporated herein. The Examiner correctly recognized in the present Office Action that Bestler fails to teach or suggest, “extracting a synchronous signal from the received analog broadcasting signal, encoding predetermined additional information according to the extracted synchronous signal,” as recited in independent claim 1. In addition, although not addressed by the Office Action, Bestler is silent as to teaching or suggesting, “transmitting the additional information overlapped with the MPEG processed video signal separated from the digital broadcast signal in accordance with the encoding selected in the encoding of the MPEG processed video signal,” as recited in independent claim 1.

Furumiya generally describes an improved clock generator circuit composed of digital components, which require no particular adjustment and provide stable operation, thus being highly feasible in pragmatical production. See column 1, line 65, to column 2, line 2. A zero hold clock signal, which is in phase with the external sync signal from a fixed clock signal, which is stable in phase and frequency, is provided. See column 2, lines 10-17. A phase comparator circuit produces phase difference data indicative of a phase difference between the external sync signal and an internal sync signal.

However, Furumiya fails to teach or suggest, "encoding predetermined additional information according to the extracted synchronous signal," as recited in independent claim 1. Furumiya does not contemplate receiving an analog broadcasting signal and a digital broadcasting signal and processing each signal according to a selection of an analog or digital channel. There is no consideration in Furumiya of encoding additional information according to the extracted synchronous signal. Rather, as shown in FIG. 2 of Furumiya, an encoder 8 sends 3-bit selection data corresponding to its input signal to the selector 9 which in turn selects and deliver one of the 8 different phase signal patterns as a zero hold clock signal. Nothing in Furumiya teaches or suggests operating the encoder 8 so as to encoding predetermined additional information "according to the extracted synchronous signal," emphasis added, as recited in independent claim 1.

Furumiya fails to teach or suggest, "transmitting the additional information overlapped with the MPEG processed video signal separated from the digital broadcast signal in accordance with the encoding selected in the encoding of the MPEG processed video signal," as recited in independent claim 1.

Furthermore, as commonly understood, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art..."[the Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992). In addition, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. Id. at 1783-84. However, the Office Action solely provides self-serving conclusive statements such as "for the well-known improvement of ensuring the colors of the analog signal is rendered in proper phase when displayed on a digital receiver." In addition, without finding support in any of the references cited, it is conclusively asserted that "it was well known that time-base errors may also occur in general for analog video signals being displayed on digital receivers. Thus, one of ordinary skill in the art would have been motivated to modify Bestler with a teaching of ensuring that the colors are rendered in phase, since the change in the viewable display region on a digital receiver from an analog receiver...was a well-known dilemma," without finding support in either Bestler or Furumiya of such assertion. There is no motivation found in either reference of combining a hybrid analog/digital STB with a synchronous clock generator and time-base error corrector.

"Rejection of patent application for obviousness under 35 USC §103 must be based on evidence comprehended by language of that section, and search for and analysis of prior art includes evidence relevant to finding of whether there is teaching, motivation, or suggestion to select and combine references relied on as evidence of obviousness; factual inquiry whether to combine references must be thorough and searching, based on objective evidence of record." In re Lee 61 USPQ2d 1430 (CA FC 2002)

Thus, as pointed out in In re Lee, the record must support motivation, i.e., there must be something in the record pointing out where the recited motivation can be found. In addition, there must be some discussion on how that purported motivation or suggestion is even relevant to the reference being modified.

Only the present invention sets forth all the claimed features, as well as the motivation for combining the same. The outstanding rejection would appear to have taken this teaching of the present invention and applied the same to generate a combination of Bestler and Furumiya, as set forth in the Office Action, to disclose the presently claimed invention. Applicants respectfully assert that the *prima facie* burden has not been met. Either a reference must be presented supporting the motivation to combine or an Affidavit signed by the Examiner of record must be submitted.

Thus, even assuming, arguendo, that both Bestler and Furumiya were combined, the combination would fail to teach or suggest all the claimed features of independent claim 1. The combination of both cited references is silent as to teaching or suggesting all the claimed features of the synchronous separation unit of independent claim 1.

Because independent claims 5 and 11 include similar claim features as those recited in independent claim 1, although of different scope, the arguments presented above supporting the patentability of independent claim are incorporated herein to support the patentability of independent claims 5 and 11.

In the Office Action, at page 10, claim 6 was rejected under 35 U.S.C. § 103 in view of Bestler and U.S. Patent No. 4,555,723 to Pritchard ("Pritchard"). The rejection is traversed and reconsideration is requested.

Because dependent claim 6 depends from independent claim 5, Bestler and Pritchard, individually or combined, must teach all the claimed features of independent claim 5.

As previously indicated and recognized in the Office Action, Bestler fails to teach or

suggest, " a synchronous separation unit to extract a synchronous signal, when the analog broadcasting channel is selected, from the analog broadcasting signal received from said air tuner and to separate the analog broadcasting signal into an analog audio signal and an analog video signal," as recited in independent claim 5.

Pritchard generally describes frame comb filters effectively separate the chrominance and luminance components of composite video signal but produce undesirable image distortion when interframe motion occurs. See column 1, lines 29-32 of Pritchard. Luminance cross components introduced into the comb filtered chrominance signal component during interframe motion intervals contribute to the image distortion, which produces phantom images of the moving object. See column 2, lines 48-68 of Pritchard. The luminance cross components are eliminated from the comb filtered chrominance signal by successively filtering the chrominance signal with a chrominance bandpass filter and an interline chrominance comb filter.

Similarly to Bestler, Pritchard fails to teach or suggest, "a synchronous separation unit to extract a synchronous signal, when the analog broadcasting channel is selected, from the analog broadcasting signal received from said air tuner and to separate the analog broadcasting signal into an analog audio signal and an analog video signal," as recited in independent claim 5. Nothing in Pritchard teaches or suggests extracting a synchronous signal. Rather, a chrominance signal of an NTSC composite video signal is synchronized to have a 180-degree phase relationship from frame-to-frame permitting comb filtering on a frame basis. See column 2, lines 10-14 of Pritchard.

Thus, even assuming, arguendo, that both Bestler and Pritchard were combined, the combination would fail to teach or suggest all the claimed features of independent claim 5. The combination of both cited references is silent as to teaching or suggesting all the claimed features of the synchronous separation unit of independent claim 5.

Accordingly, it is respectfully requested that independent claim 5 and related dependent claim 6 be allowed.

In the Office Action, at page 10, claims 18-20 are rejected under 35 U.S.C. § 103 in view of U.S. Patent No. 5,638,112 to Bestler et al. ("Bestler"), U.S. Patent No. 5,298,998 to Furumiya et al. ("Furumiya"), and in view of U.S. Patent No. 5,633,688 to Choi ("Choi"). This rejection is traversed and reconsideration is requested.

As previously asserted, Bestler and Furumiya, individually or combined, fail to teach or

suggest, "a processing unit ... to synchronize phases of the digital and analog broadcasting signals upon the tuning unit changing selection between the digital or analog broadcasting signal," as recited in independent claims 18 and 20.

Similarly to Furumiya, Choi is directed an image superimposing apparatus including a sync separator 10 for separating an external composite sync signal from an external composite image signal, a clock signal generator 20 for adjusting the frequency of a clock signal (CLK) so as to be synchronized with the external composite sync signal according to a **phase difference** between an internal horizontal sync signal and a horizontal sync signal of the separated external composite sync signal, a sync signal generator 30 for generating an **internal composite synchronization signal** (SYNC), and a superimposing circuit 50 for producing an image signal, encoding the internal composite sync signal and an RGB signal as a television signal, and superimposing the encoded color television signal with the external composite image signal. (Emphasis added) See column 2, lines 33-58.

However, similarly to Bestler and Furumiya, Choi fails to teach or suggest "a processing unit ... to synchronize phases of the **digital and analog broadcasting signals** upon the tuning unit **changing selection** between the digital or analog broadcasting signal," emphasis added, as recited in independent claims 18 and 20. Choi merely appears to describe superimposing the encoded color television signal with the external composite image signal without any teaching or suggestion of doing so according to the extracted synchronous signal.

Thus, even assuming, arguendo, that Bestler, Furumiya, and Choi were combined, the combination would fail to teach or suggest all the claimed features of independent claims 18 and 20. The combination of the cited references is silent as to teaching or suggesting all the claimed features of the synchronous separation unit of independent claims 18 and 20.

Accordingly, it is respectfully requested that independent claims 18 and 20 and related dependent claim 19 be allowed.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. There being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which

action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner's contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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